

## MATERIAL SAFETY DATA SHEET

<b>Product:</b>	<b>ZINC AIR ALKALINE BATTERY</b>	<b>Revision:</b>	7
<b>Producer:</b>	MASTERBATTERY.	<b>Revision date:</b>	07.05.2013
		<b>Printing date:</b>	07.05.2013

### 1. SUBSTANCE/PREPARATION AND COMPANY NAME

<b>Substance/preparation:</b>	Zinc air alkaline batteries: Kompakt 25, Kompakt 30, Kompakt 50, Kompakt 60, Kompakt 120 and Kompakt 150, Kompakt 360 and Kompakt 700, Kompakt 960 2X3PFP 100, 4PFP 25, 4PFP 30, 4PFP 40, 4PFP 100, 5PFP260, 6PFP 40, 6PFP 55, 6PFP 65, 6PFP 75, 6PFP 100, 6PFP 120, 6PFP 140, 6PFP 145, 6PFP 160, 6PFP 165, 6PFP 170 and 6PFP 200, 8PFP 60, 8PFP 120, 8PFP 330, Single PP8/4PFP20 and Twin PP8/4PFP40, PP8 3V and 2PFP 80 3V.
<b>Usage:</b>	For all electronic devices.
<b>Company:</b>	MASTERBATTERY C/Dehesa vieja n°2 28052 Madrid e-mail: info@imasterbattery.es http:// www.masterbattery.es

### 2. POSSIBLE HAZARDS

<b>Critical hazards to man:</b>	If battery leaking, exposure to caustic ingredients may occur.
<b>Critical hazards to the environment:</b>	Not applicable.
<b>Other Information:</b>	Keep batteries away from small children.

### 3. COMPOSITION/INFORMATION OF INGREDIENTS

<b>Chemical nature:</b>								
<b>- chemical name:</b>	Potassium hydroxide	Manganese dioxide	Zinc	Iron	Mercury	Cadmium	Lead	Plastic (PS)
<b>- chemical formula:</b>	KOH	MnO <sub>2</sub>	Zn	Fe	Hg	Cd	Pb	
<b>- mass portion:</b>	8-10%	12-15%	27-42%	4-14%	0%	0%	0%	11-24%
<b>CAS No.:</b>	1310-58-3	1313-13-9	7440-66-6	7439-89-6				
<b>EEC No.:</b>	215-181-3	215-202-6	231-175-3					
<b>Index No.:</b>	019-002-00-8	025-001-00-3						
<b>Classification:</b>	C	X <sub>n</sub>	N					
<b>Risk Phrases:</b>	R35	R20/22	R50/53					

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### 4. FIRST AID MEASURES

- General advice:** For consumer use, adequate hazard warnings are included on both the package and on the battery. Potential for exposure should not exist unless the battery leaks, is exposed to high temperatures, is accidentally swallowed or is mechanically, physically, or electrically abused. Contains potassium hydroxide, which is caustic.
- If inhaled:** Not anticipated. Respiratory and eye irritation may occur if fumes are released due to heat or an abundance of leaking batteries. Remove to fresh air. Contact physician if irritation persists.
- On skin contact:** Irritation, including caustic burns/injury, may occur following exposure to a leaking battery. Irrigate exposed skin with copious amounts of clear, tepid water for at least 15 minutes. If irritation, injury or pain persists, consult a physician.
- On contact with eyes:** Irritation, including caustic burns/injury, may occur following exposure to a leaking battery. If battery is leaking and material contacts eyes, flush with copious amounts of clear, tepid water for 30 minutes. Contact physician at once.
- On ingestion:** Not anticipated. Irritation, including caustic burns to the internal/external mouth areas, may occur following exposure to a leaking battery. If mouth area irritation/burning have occurred, rinse the mouth and surrounding area with clear, tepid water for at least 15 minutes. If irritation injury or pain persists, consult a physician.

### 5. FIRE FIGHTING MEASURES

- Suitable extinguishing media:** As appropriate for adjacent fire.
- Special protective equipment:** In fires involving large quantities of product, use self-contained breathing apparatus and full protective clothing.
- Further information:** Hazardous decomposition products may be produced. (Sec. 10).

### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions:** Notify safety personnel of large spills. Caustic potassium hydroxide may be released from leaking or ruptured batteries. Avoid eye or skin contact and inhalation of vapours. Increase ventilation. Clean-up personnel should wear appropriate protective gear.
- Environmental precautions:** Not applicable.
- Methods for cleaning up:** Not applicable.

### 7. HANDING AND STORAGE

- Handling:** Avoid mechanical or electrical abuse. **DO NOT** short or install incorrectly. Batteries may explode, pyrolize or vent if disassembled, crushed, recharged or exposed to high temperatures. Install batteries in accordance with equipment instructions. Replace all batteries in equipment at the same time.
- Storage:** Store at room temperature.

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### 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

<b>Limit values of exposure:</b>		<b>8-Hour TWAs:</b>
<u>Chemical name</u>	<u>CAS No.</u>	<u>Limit values (mg/m<sup>3</sup>)</u>
MnO <sub>2</sub>	1313-13-9	5 (U.K.), (Ceiling) (OSHA)
KOH	1310-58-3	2 (Ceiling) (ACGIH); (STEL) (U.K.)

**Personal protective equipment:**

- respiratory equipment: None required under normal use conditions.
- hand protection: None required under normal use conditions. Use neoprene, rubber or latex gloves when handling leaking batteries.
- eye protection: None required under normal use conditions. Wear safety glasses when handling leaking batteries.

**General safety and hygiene measures:** Use only as directed.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Form:</b>	Rectangular plastic (PS) casing
<b>Colour:</b>	Dark inner content
<b>Odour:</b>	Not applicable
<b>pH:</b>	Not applicable
<b>Melting point:</b>	Not available
<b>Boiling point:</b>	Not available
<b>Flash point:</b>	Not applicable
<b>Explosion limits:</b>	Not available
<b>Ignition temperature:</b>	Not available
<b>Vapour pressure:</b>	Not available
<b>Specific gravity:</b>	Not available
<b>Solubility in water (20°C):</b>	Not applicable
<b>Solubility in other solvents:</b>	Not applicable

### 10. STABILITY AND REACTIVITY

<b>Thermal decomposition:</b>	Batteries may burst and release hazardous decomposition products when exposed to a fire situation.
<b>Substance(s) to avoid:</b>	Strong oxidisers
<b>Hazardous reactions:</b>	Contents incompatible with strong oxidising agents.
<b>Hazardous decomposition products:</b>	Thermal degradation may produce hazardous fumes of zinc and manganese; hydrogen gas; caustic vapours of potassium hydroxide and other toxic by-products.

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### 11. TOXICOLOGICAL INFORMATION

**Toxicity:** Toxicity information is available on the battery ingredients noted in Section 2, but, generally not applicable to intact batteries as used by customers.

**Chronic health effects:** Not applicable to intact batteries.

### 12. ECOLOGICAL INFORMATION

**Ecotoxicology:** None available regarding product.

### 13. DISPOSAL CONSIDERATIONS

Dispose in accordance with appropriate national regulations. Do not incinerate, since batteries may explode at excessive temperatures.

### 14. TRANSPORT INFORMATION

**UN Number:** None

**IMO Classification:** None

**ADR Classification:** None

**IATA Classification:** None

These batteries are not regulated as hazardous materials or dangerous goods when shipped.

### 15. REGULATORY INFORMATION

**EC Labelling:** None

**Risk Phrases:** None

**Safety Phrases:** None

**Directive:** Classification and labelling have been performed according to Regulation (EC) No. 1907/2006 (REACH) including amendments and the intended use. Labelling is not required because batteries are classified as goods under the Dangerous Preparations Directive and as such are exempt from the requirements of the Directive 93/112/EEC. Other used directives are: 2002/96/EC Directive on waste electrical and electronic equipment (WEEE), 2002/95/EC Directive on the restriction of use certain hazardous substances in electrical and electronic equipment, 2006/66/EC Directive of the European parliament and of the council of 6 September 2006 on batteries and accumulators and repealing Directive 91/157/EEC.

### 16. OTHER INFORMATION

The changes and modifications are marked with vertical line | on the left side of changed text. To the best of our knowledge, the information contained in this Material Safety Data Sheet is accurate and reliable on presently available resources. However, neither the seller nor any of its subsidiaries assumes any responsibility or liability whatsoever for the accuracy or completeness of the information contained herein. This Material Safety Data Sheet shall not constitute a guarantee for any specific product features. Final determination of suitability of this material is the sole responsibility of the user. All materials may present unknown hazards and should be used and handled with caution and following

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reasonable safety procedures. Consequently the buyer assumes all risks in connection with the use and handling of this material.

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